Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Petition for Rulemaking Filed by	)	
Checkpoint Systems, Inc., to amend Part 15	)	RM- 9092
of the Commission's Rules to Permit	)	
Increased Emissions for Electronic Article	)	
Surveillance Systems	)	

ORDER

Adopted: August 4, 1998 **Released: August 5, 1998**

By the Chief, Office of Engineering and Technology:

INTRODUCTION

1. This action responds to a petition for rulemaking filed on April 28, 1997 by Checkpoint Systems, Inc. ("Checkpoint"), requesting that the Commission amend Part 15 of its rules to increase the allowed radiated and power line conducted emission levels for intentional radiators in the 1.705-30 MHz band. Checkpoint asserts that these rule changes would permit an increase in the operating range for electronic article surveillance ("EAS") systems without increasing the risk of interference to other radio services. For the reasons set forth below, we hereby deny Checkpoint's petition.

BACKGROUND

2. Checkpoint manufactures EAS systems that are used to prevent the theft of articles from retail stores and other facilities. These systems employ "gates" that are located at the entrances and exits to the facility. Each gate includes a radio frequency transmitter and receiver that can detect passive electronic tags attached to each article to be protected. The gate triggers an alarm whenever a tagged article passes through the gate. Normally the tag is deactivated or removed at the time of purchase. Checkpoint's EAS systems operate under Section 15.233 of the rules using swept frequency techniques covering the range 1.705 - 10 MHz.[1] Section 15.233 restricts the field strength of any emission within this band to 100 μV/m as measured at a distance of 30 meters. These systems are also subject to a limit on AC power line conducted emissions. Section 15.207 restricts the radio frequency voltage that is conducted onto the AC power line to no more than 250 microvolts on any frequency within the band 450 kHz to 30 MHz.[2]

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[1] *See* 47 CFR § 15.209(a).

[2] *See* 47 CFR § 15.207.

3. In its petition, Checkpoint requests that the Commission initiate a rule making proceeding to permit EAS systems to operate over a frequency range of 1.705 - 30 MHz with a maximum radiated emission level of 1000 μV/m measured at 30 meters.[3] In addition, Checkpoint requests that these systems be permitted to operate with a maximum conducted emission level of 3000 μV. Checkpoint claims that it needs the increased field strength levels to enable the development of state of the art EAS equipment that will increase the effective range of the RF transmitter; enable the use of wider gates; provide for smaller encoded tags; permit greater flexibility for interior store design; and permit placement of small, high margin, high cost items on open shelves. In addition, Checkpoint asserts that the increased field strength levels are needed because EAS systems are at risk of being "drowned out" by increasing levels of ambient RF noise emitted by devices such as florescent lights, air conditioners, elevators, cash registers, wireless telephones, and computers. Checkpoint indicates that the increased field strength levels will not increase the risk of interference to radio services because EAS systems are typically deployed in buildings that will attenuate the radiated emissions and that any harmful interference caused by EAS devices operating at the increased field strength limits would be localized, easily identified and corrected. Moreover, Checkpoint indicates that the requested limits are in line with an interim standard adopted by the European Telecommunications Standards Institute ("ETSI").

4. On June 16, 1997, the American Radio Relay League ("ARRL") and Sensormatic Electronic Corporation ("Sensormatic") filed oppositions to the petition. ARRL argues that Checkpoint has not provided any technical analysis of the potential for increased interference to the amateur radio service. ARRL believes that Checkpoint's request would result in increased interference to the amateur radio service which is allocated spectrum in several frequency bands between 1.705 and 30 MHz.[4] ARRL claims that the signals would not be attenuated significantly by buildings because the gates are placed near exit doors and entry ways for stores and warehouses. Further, ARRL claims that such installations are often located close to amateur operations located in residential areas. ARRL asserts that the rule changes are unnecessary due to the availability of alternative EAS technology that operates in higher frequency bands.[5] In addition, ARRL states that Checkpoint has not presented any justification for any increase in the conducted emissions limits currently in place. ARRL indicates that the conducted emission limit is important for controlling interference below 30 MHz because the electrical wiring acts as an efficient radiator at these frequencies. ARRL notes that the temporary ETSI standard has not been adopted by any national regulatory authority in Europe or elsewhere. ARRL asserts that the Checkpoint petition should be denied pursuant to Section 1.407 of the rules because it does not contain sufficient reasons to

[3] In making this proposal, Checkpoint notes that Section 15.209 of the rules, 47 CFR § 15.209, currently permits intentional radiators to operate in the frequency band 1.705 - 30 MHz with a field strength limit of 30 μV/m measured at a distance of 30 meters.

[4] The Amateur Radio Service is allocated spectrum in many frequency bands, including the following: 1.8 - 1.9 MHz; 3.50 -4.00 MHz; 7.0-7.3 MHz; 10.10-10.15 MHz; 14.00-14.35 MHz; 18.068-18.168 MHz; 21.00-21.45 MHz; 24.89-24.99 MHz; and 28.0-29.7 MHz. See 47 CFR 2.106 and 47 CFR § 97.301.

[5] Some EAS systems operate in the frequency band 902-928 MHz under 47 CFR § 15.245.

justify the institution of a rule making proceeding.[6]

5. Sensormatic manufactures EAS systems that operate in the 1.705 - 10 MHz band in addition to EAS systems that operate in higher frequency bands. In its opposition to Checkpoint's petition, Sensormatic asserts that the higher signal strengths requested by Checkpoint are likely to interfere with and impair the installed base of EAS systems operating in this band. Sensormatic notes that Checkpoint has not provided any proof that higher signal levels are needed due to increased RF background noise. Sensormatic asserts that any increase in the signal levels for EAS systems would only further exacerbate the overall level of RF noise in the band to the detriment of licensed services and other Part 15 devices. Sensormatic requests that we deny Checkpoints petition for rule making pursuant to Section 1.407 of the rules because it is contrary to the Commission's policies and the public interest.

6. In its consolidated reply comments, Checkpoint asserts that both ARRL and Sensormatic have failed to offer any concrete factual support for dismissing or denying Checkpoint's petition. Checkpoint claims that the Commission has previously dismissed similar objections raised by ARRL concerning the potential interference to amateur radio systems and should do the same now. Checkpoint also rejects Sensormatic's claim that interference to EAS systems will increase. Checkpoint contends that its own systems would be similarly effected and it would not propose any technical standard that would jeopardize operation of its own EAS systems.

DISCUSSION

7. We recognize that the requested rule change may be of some benefit for the manufacturers and users of EAS systems by facilitating use of wider entrance and exit gates and smaller encoded tags. However, we find that Checkpoint has not provided sufficient technical analysis to support its assertion that there is no risk of interference to other radio services. Such an analysis is necessary given that Checkpoint is requesting a ten-fold increase in the radiated emissions limits currently permitted over the frequency range 1.705 - 30 MHz. Checkpoint has not submitted any scientific evidence to support its claim that building attenuation will act to prevent interference. We also find that Checkpoint has not submitted any information supporting its assertion that its EAS systems are in danger of being "drowned out" by other sources of radio noise. In this regard, we concur with Sensormatic that an increase in the signal levels permitted for radio frequency devices in this frequency range could exacerbate the levels of radio noise. We also find no reasonable justification for an increase in the power line conducted emissions limit. However, on June 8, 1998, the Commission issued a Notice of Inquiry which seeks comments regarding the power line conducted emission limits for devices operating under Parts 15 and 18 of the Commission's rules.[7] Checkpoint may wish to file comments in that proceeding concerning its view on the conducted emission limit. Moreover, we note that the interim ETSI standard has been modified and replaced by a standard which lists lower emission limits than are contained in

[6] *See* 47 C.F.R. § 1.407.

[7] *See Notice of Inquiry*, ET Docket 98-80, FCC 98-102, adopted May 29, 1998.

Checkpoint's petition. In summary, we conclude that Checkpoint's petition does not contain adequate information to warrant the initiation of a rule making proceeding as required under Section 1.407 of the Commission's rules.

CONCLUSION

8. Accordingly, for the reasons stated above, Checkpoint's request for rule making IS HEREBY DENIED. This action is taken pursuant to 47 C.F.R. §§ 0.31 and 0.241.

FEDERAL COMMUNICATIONS COMMISSION

Dale N. Hatfield
Chief
Office of Engineering and Technology